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ABSTRACT

Major problems of higher education in Mexico are addressed in the context of the country's developmental stages, socioeconomic conditions, and demographics. Important factors in modern Mexican history include: population growth, public and private investment to stimulate socioeconomic activities in different regions of the country, and financial problems. In higher education, the number of students has increased dramatically; yet, the economic crisis has limited public resources for expanding educational services and has restrained the student's capability to continue schooling. Despite large increases in government subsidies to public universities, the level of funding does not compensate for inflation and for the developmental needs of institutions. To respond to the recently created groups of students and institutions, significant numbers of new teachers were hired; however, many were new graduates without teaching experience. Colleges and universities are mainly concentrated in the most urbanized areas of the country. The distribution of students by type of postsecondary institution and major is also considered. Eight figures and three tables are provided. (SW)

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SOME PROBLEMS AFFECTING HIGHER EDUCATION IN MEXICO

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ABSTRACT

This paper attempts to diagnose some of the main problems of Mexican Higher Education. It begins with a brief overview of several characteristics of the nation's context and development. Specifically, it deals with demographic, economic, and urban factors as elements of the analytical framework.

Higher Education in Mexico is then described with the use of a set of analytical categories. These are: the quantitative growth of this educational level, financial and teaching resources, geographical distribution of higher education services, and student population on the different educational subsystems and areas of knowledge. Along each one of the categories, general problems and guidelines are discussed in order to facilitate identifying likely educational policies.

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SOME PROBLEMS AFFECTING HIGHER EDUCATION IN MEXICO (*)

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(*) Paper read at the 1986 AERA Annual meeting. San Francisco, Ca. April, 1986.

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I. Introduction

In order to diagnose some of Mexico's main problems related to Higher Education, the country's socieconomic conditions and stages are briefly described as a basis for the analytical framework. Without pretending to provide here a comprehensive overview of its socioeconomic development, it would be useful to underline some characteristics of the nation's context and their relationships with higher education.

At the beginning of the twentieth century, Mexico was a rural nation of 13.6 millon inhabitants with only 28% of its population living in urban areas; population which, on other hand, was the basic recipient of social services such as electric energy, water supply, transport, health and education. (1)

Agriculture, live stock, mining and commerce were the main economic activities and important sources of income, but the extension and rugged topography of the territory made the promotion of rural development difficult because of the increasing costs for social services and investment. Such a situation facilited the concentration of socioeconomic activity in a few urban areas and, eventually, produced rural migration to a small number of cities.

By 1940, Mexico had significantly increased its productivity on traditional economic activities as well as on manufacturing industries and generated capital surplus to expand basic social services to approximately 35% of its population. One significant result of the improvements on living conditions was the fact that population growth rates increased from 2.15 in 1940 to 2.93 in 1950 and to 3.46 in 1960.

Even when birth rates were constant during the same period, the decrease in child mortality rates had an impact on the population growth.

In the last 35 years, the country made important efforts to develop the modern sectors of economy by diversifying its industries; and to change its profile from a rural nation to an urban one by expanding social services. However, economic growth rates, even when remarkable, were not enough to generate the jobs and services required by an even more impressive growing population.

The most important factor of modern mexican history is related to its population phenomenom; which represents its most valuable potential asset and, at the same time, the number one priority and challenge. Nowadays, Mexico is a country of approximately 80 million people with almost 67% of the population living in

urban areas. Urban population growth, however, has mainly been the result of rural migration because of the lack of economic activity and jobs. 26% of the population lives in three main cities but, on the contrary, almost 50% lives in 120,000 small cities with less than 15,000 inhabitants; situation which represents another type of challenge. (2)

Since 1977 mexican government has been executing a Family Planning Program aimed at reducing the population growth rate of 3.6 observed in the seventies to expected rates of 1.5 or 1.0 by the year 2000. Today the population growth rate is approximately 2.2.

Another set of steps have been taken, mainly in the way of public and private investment to stimulate socioeconomic activities in different regions of the country. The recent earthquake in Mexico city highlighted the risks of living in overpopulated cities and served as an aditional event to promote the decentralization of population and services.

The world financial crisis, particularly that of Third World nations and more specifically of Latin American countries is another contemporary factor that is having deep repercussions on the quantity and quality of social services.

According to a recent study, "with the Latin American debt nearing $400 billion in 1985, the eighties are rapidly becoming the decade of eroding human services".(3)

This decline is seen as a result of the austerity programs imposed by the increased foreign debt, the fall of raw materials prices in the world market and the protectionist measures of industrialized countries.

In thirteen of fifteen Latin American countries surveyed in the same study, it was observed that " the proportions of government expenditure allocated to education during the period 1973-1982 declined.... Meanwhile, in fourteen of the fifteen countries the share of government revenues devoted to payment of interests on debt increased.. Overall, the percentage change for the share of government budget of fifteen countries allocated to education declined by an average of 24.9%. With respect to the mexican case, as it will be examined later on, the financial crisis has imposed restrictions on education as well as on other public services and its social effects can already be seen.

II. Mexico's Higher Education System

a) Quantitative Growth

One of the remarkable aspects of Mexican Higher Education

is related to its quantitative growth. As a consequence of the demographic explosion and the expansion of basic education, mexican youth looked at higher education as a way of climbing the socio-economic pyramid. In 1960 there were 76,000 students registered in this educational level. Ten years later, the number increased to 219,000, which meant a relative growth of 186%. From 1970 to 1980 the growth was even more impressive, the number of students increased almost three times more, amounting to 830,000 students (Figure 1). The social impact of this expansion was reflected in the following: by 1970, only one adolescent out of twenty was studying in an institution of higher education; in contrast this proportion changed to one out of eight adolescents in 1980 (4). On the other hand, from 1977 to 1985, 127 new institutions have been created and the number of professional degrees has also risen from 256 in 1977 to 433 in 1984 (Table 1)

Projections on future student demand to higher education estimated, until two years, that the number of students might double in the next 5 years.

However, the economic crisis has limited public resources for expanding the education services and has restrained the individual student capability to continue his education. As a result, junior high and high school institutions have been reporting an increased number of dropouts and the student demand figures for higher education have

also been showing a decrease in the last years.

At this time it is difficult to predict the number of students in higher education although this educational level is expected to reach 1 450,000 students by the year 1990.

b) Financial Resources

The financial resources of public universities, which enroll approximately 62% of the students in higher education, come mainly from government. In 1982, the sources of financial support for public universities were the following: 76.2% of the money came from the federal government, 16.8% from the state government and the rest, 7% from student fees and university services. These numbers reflect the official policy of assuring free higher education for a representantive portion of Mexican youth; but alto, illustrate the devastating effects of a prolonged economic crisis such as the one taking place now. (Fig. 2)

Despite the notorious increases on government subsidies to public universities, particularly those of the last three years (Fig. 3), they will not be enough to account for inflation and for the developmental needs of institutions. Table No. 2 shows the federal subsidy for public universities in billion pesos, from 1977 to 1984 and compares those data with the number of students enrolled in the same years. By dividing the federal subsidy by

the number of students and applying a coefficient factor for inflation, we obtain the third colum which shows the federal subsidy/student ratios in constant pesos of 1984.

Figure 4 illustrates the federal subsidy/student ratios of the last eight years and shows the notable decrements of money allocated to higher education for each enrolled student.

c) Teaching Resources

The impressive growth of higher education, in a short period of time and under restrained financial conditions, implied a great institutional challenge. In many cases, improvisation was the only way of dealing with the demanding pressure. This massive and explosive growth affected the quality of education.

From 1979 to 1983, twenty thousand new teachers were hired in order to cope with the recently created groups of students and institutions. Many of these teachers were just graduating from their own programs and without any teaching experience.

Even when the creation of some institutions and educational programs permitted to adapt the latest advancements on organizational theory and educational technology, the speed of expansion didn't leave to much time for instructing the new personnel into the innovative

operational processes or to adequately coordinate institutional development.

On the other hand, many new institutions and programs imitated traditional administrative structures, curricula, and instructional processes operating in old institutions. So that structures and processes already surpassed by academic innovation were kept without change. Lack of coordination on a national level was also observed, because several institutions duplicated efforts by offering expensive programs with limited demand and social impact.

Due to the social pressure of students demanding a place in educational institutions, the teaching function received attention as the number one priority. The research and extension functions had to compete with scarce resources; not only in terms of money, but also of personnel, equipment, facilities and time. The limited impact of research for generating new knowledge and technological processes and products, as well as the weak relationship between the public services provided by universities and the social needs of their respective communities illustrate the effects of such a situation.

d) Geographical distribution of higher education

Universities and institutions of higher learning are mainly concentrated in the mosturbanized areas of the country

(Figure 5). In 1977, 39% of higher education students were located in Mexico City. In the same year, from a total of 8 regions, on which the country is divided for purposes of research and planning of higher education, only three of them concentrated 70% of the total student population.

By 1984, thanks to the decentralization efforts Mexico's City participation declined to 27.3% and, with the exception of region IV, the rest of them increased its relative participation on the national student population.(5) Despite this progress, important actions have to be executed to consolidate most of the regions.

e) Distribution of student population by education subsystems

Higher Education in Mexico is comprised of three educational subsystems: Universities, Technological Institutes and Normal Education Institutions, and they can be public or private. Traditionally, universities have been the most populated ones, and their share of students from the total population has not changed, despite the educational policy of the last years to increase the role of technological institutions (Table No. 3). As can be seen in Figure 6, technological and Normal Education Institutions have a close share of the student population. In the three subsystems, public education is the one with the greater portion of students, However, in the last years, private's education share of students has increased (Figure 7). In 1977, private education amounted to

11% of the total students, while in 1980 increased to 14% and to 17% in 1984. Private education has kept relatively constant its proportion of students in the university subsystem, so the increases have been obtained in the technological and normal education institutions.

f) Distribution of student population by areas of knowledge

Professional studies in Mexico differ from those in United States because they are structured in a fixed curriculum. All courses in a fixed curriculum are specified in advance, and all students enrolled in the same professional career take the same courses along the various semesters required to graduate. Only the last two or four semesters permit a given flexibility so the students may specialize in different areas of interest. On the other hand, most Mexican Universities are organized on Schools or "Facultades", which is a more rigid organization than the Departamental structure, because students take all their courses in the same academic unit. For purposes of this study, profesional careers were grouped in six areas of knowledge: Agriculture and Live Stock; Health; Administration and Social Sciences; Humanities; Natural Sciences; and Enginnering and Technology.

The Area of Administration and Social Sciences has standed out as the most demanded by students.

In 1977, this area amounted for 36.7% of all students in higher education. Seven years later, although there were efforts to orient professional studies to strategic areas for the country's development, its share of students increased to 42.7% of the total population (Figure 8.) In constrast, Natural Sciences considerad as one of high priority, has not shown an increase on its share of students. The same problem is observed with the area of Humanities.

Agriculture and Live Stock has shown an important increase in the last seven years but, still aditional efforts are needed to strengthen its relative participation. The only area that has demonstrated the effects of an orientation policy is Health, and particularly the career of Medicine. Physicians are trained in the last semesters of their studies in General Hospitals, and their capacity for receiving graduate students determine the number to be enrolled in a given academic year. As a matter of fact, the absolute number of students in this professional career has decreased from 84,000 students in 1977 to 72,000 in 1984.

III. Conclusions

a) Quantitative Growth

If Mexican higher education is expected to grow from 1,100,000 students in 1986 to 1,450,000 in 1990, insti-

tutions must look at the job market, as well as the strategic areas for national development in order to orient the new professional studies. A cost-effective approach is also needed in order to develop instructional processes capable of training more students effectively and with the same or fewer resources.

b) Financial Resources

Public resources will continue to be scarce to cope with student demand and institutional development, so educational institutions must generate alternative sources of funding. The potential contribution of greater student fees are limited, but institutions might develop research and extension programs to support industrial and social services projects in the public and private sector and to obtain additional incomes.

c) Teaching resources

The academic capabilities, working conditions and salaries of teachers must be improved in order to increase the quality of higher education services. Equally important are the actions directed to innovate the curricula, instructional processes and organizational structures of institutions.

d) Distribution of educational services

Decentralization efforts must continue, consolidating small institutions and developing educational programs closely related to socioeconomic needs of the various communities and regions of the country.

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(2) Poder Ejecutivo.., op. citae.

(3) Girling. R. and Keith, S. A Quest for Excellence in the Administration of Educational Systems. Gottlieb Duttweiler Institute, Zurich, 1986.

(4) SEP-ANUIES. Plan Nacional de Educación Superior Lineamientos Generales para el Período 1981-1991 México, D. F., 1981.

(5) Arredondo, V. A. "Análisis de la matrícula y el Personal Docente en la Educación Superior Mexicana" Revista de la Educación Superior. Vol 53 ANUIES, México, D. F. En.-Marzo, 1985.

FIG. 1

STUDENT POPULATION GROWTH IN H. ED.

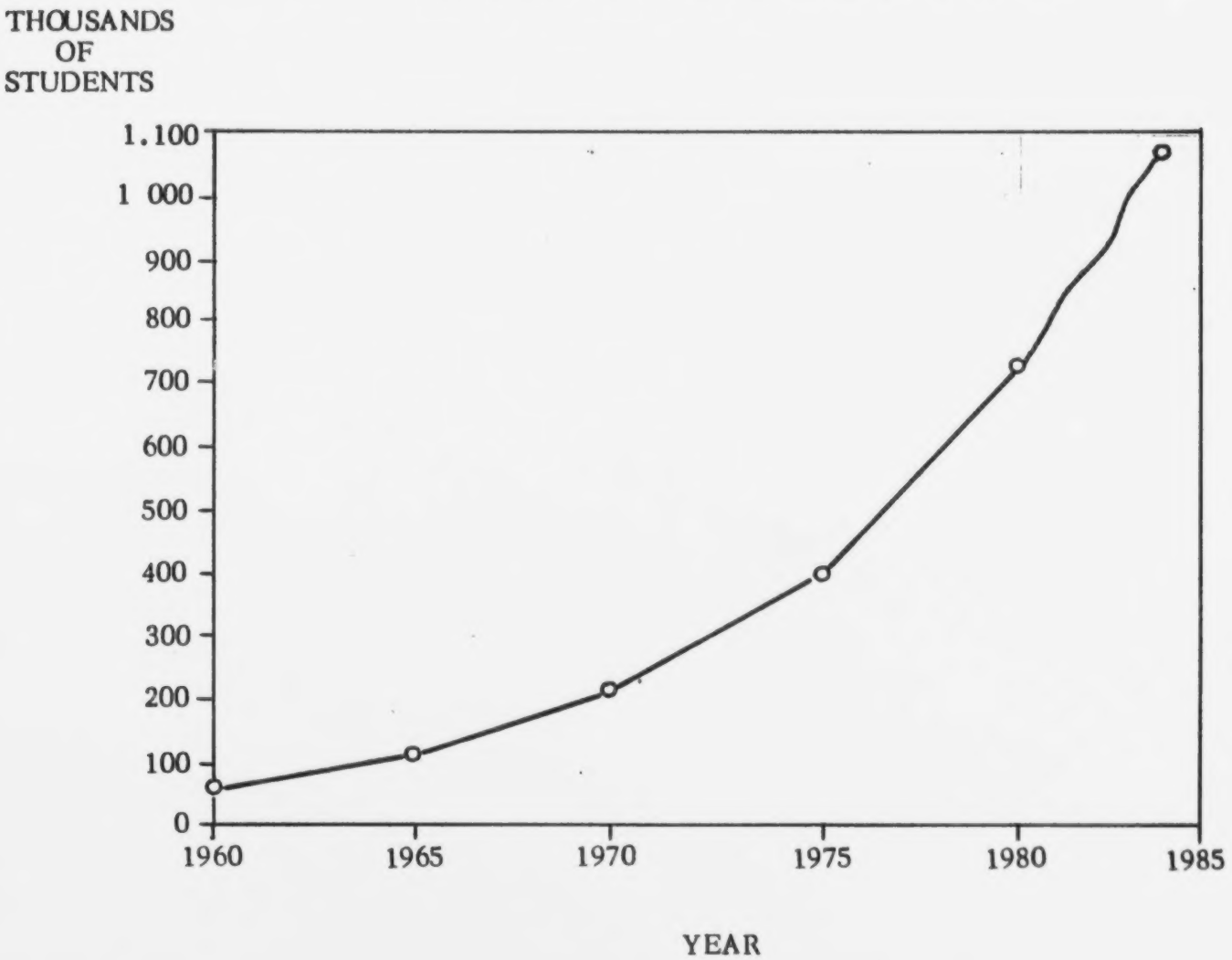


FIG. 2

FINANCIAL RESOURCES FOR STATE UNIVERSITIES

OWN RESOURCES AND STATE AND FEDERAL GOVERNMENT SUBSIDIES

(PROPORTIONAL RELATIONSHIP)

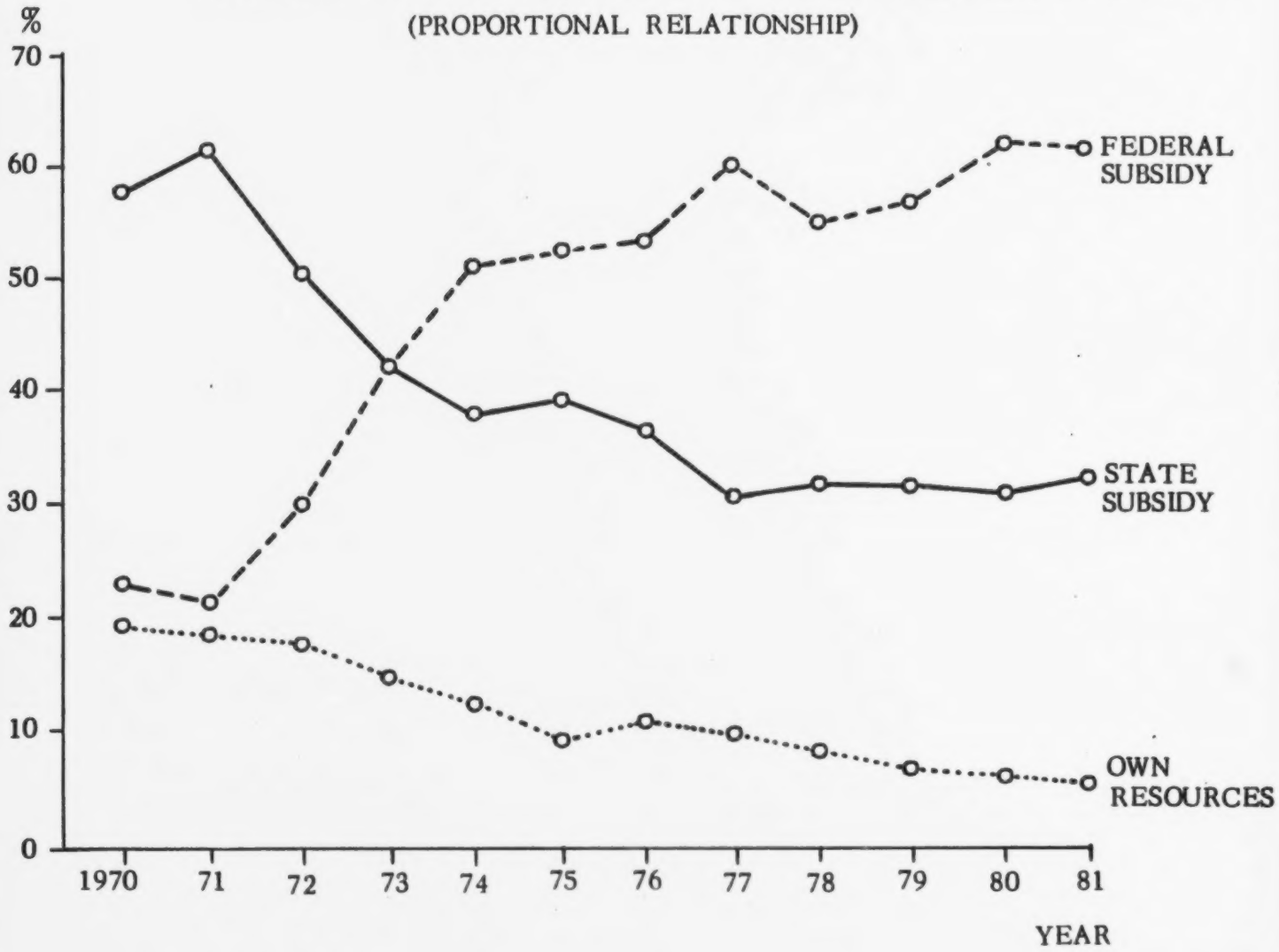


FIG. 3

FEDERAL SUBSIDY FOR PUBLIC UNIVERSITIES

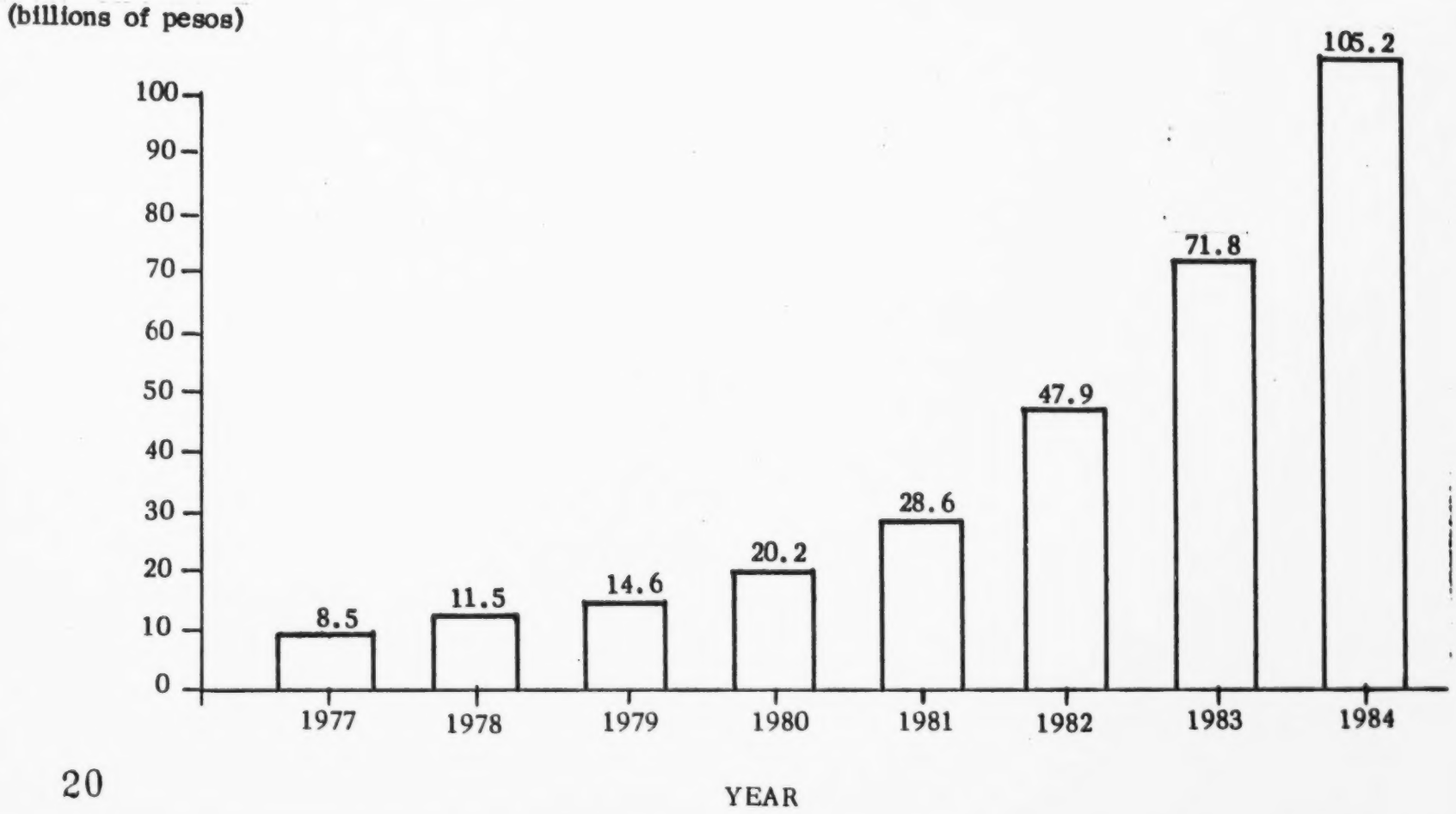


FIG. 4

FEDERAL SUBSIDY STUDENT RATIOS
FOR PUBLIC UNIVERSITIES
(Thousands of pesos of 1984 per student)

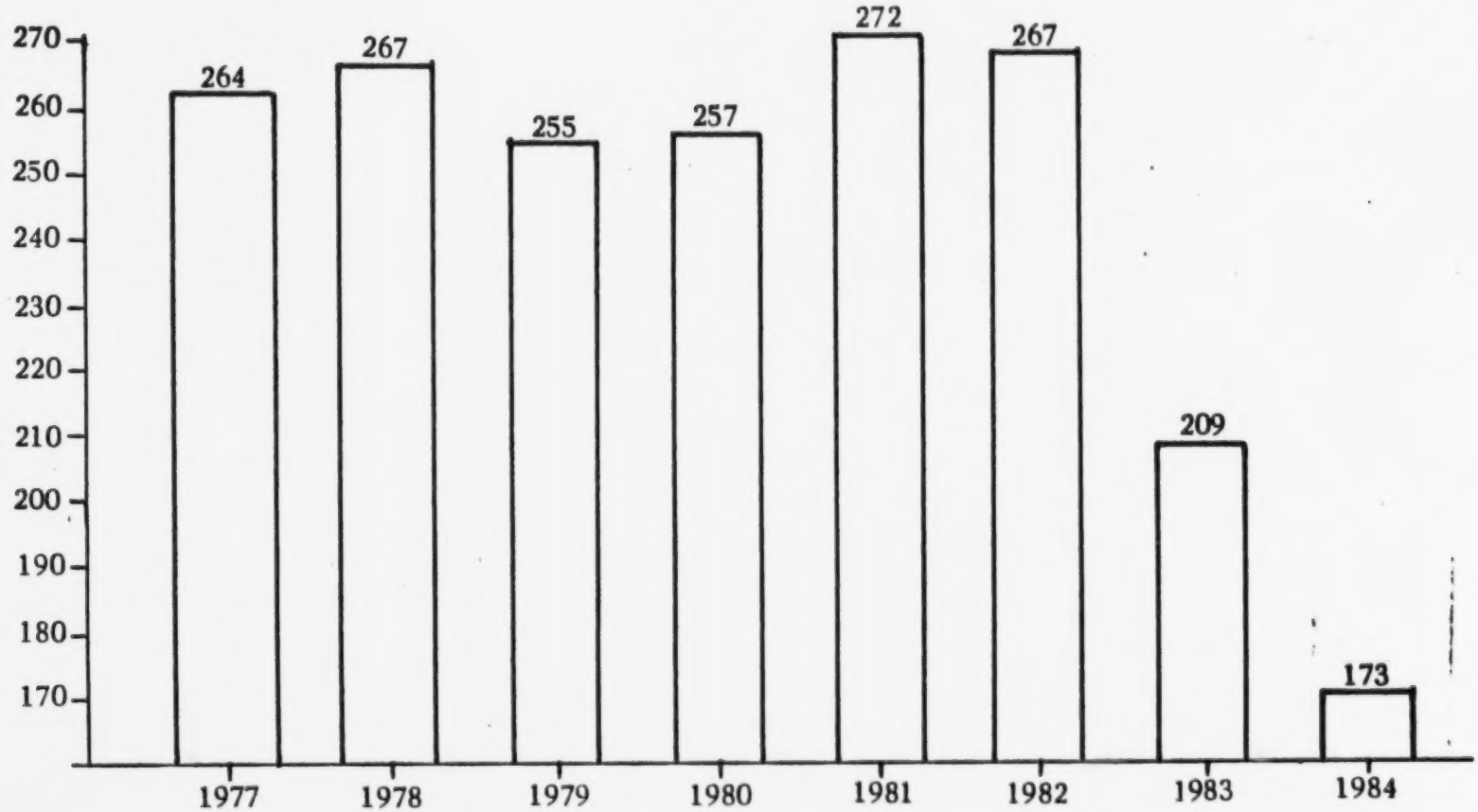
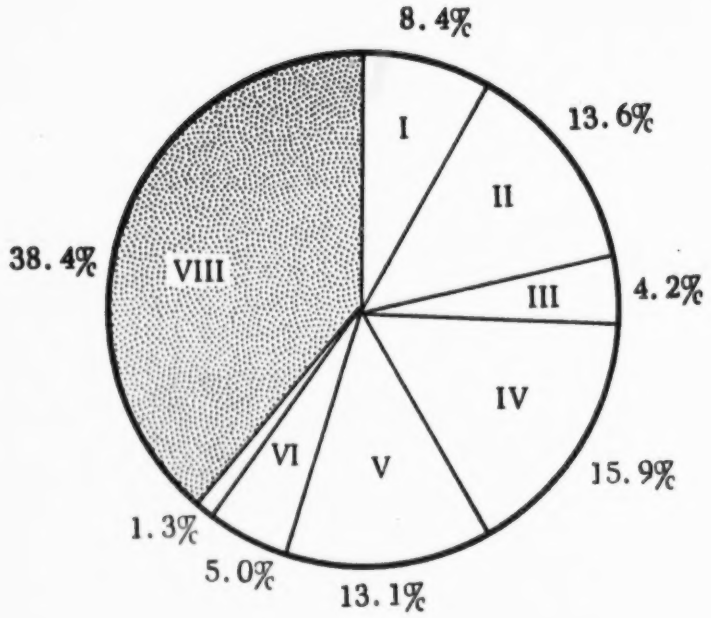


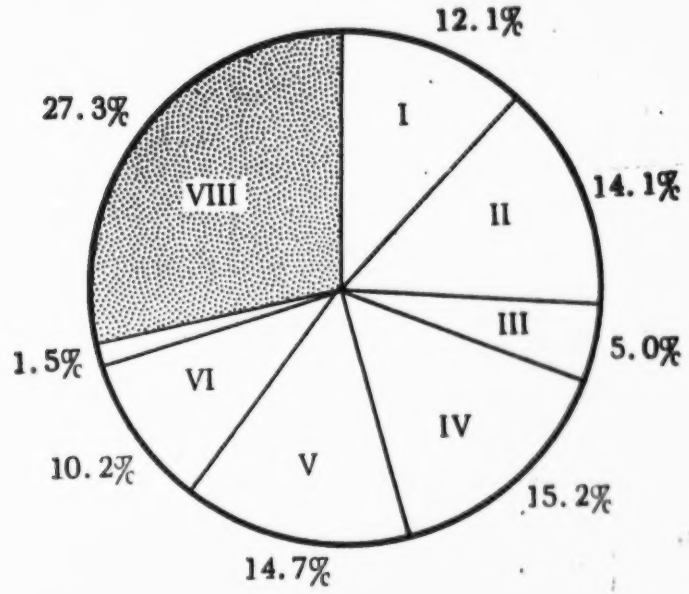
FIG. 5

GEOGRAPHICAL DISTRIBUTION OF HIGHER EDUCATION
IN THE EIGHT REGIONS OF THE COUNTRY

1977



1984



Region VIII corresponds to Mexico City

FIG. 6

STUDENT POPULATION BY EDUCATIONAL SUBSYSTEMS (1984)

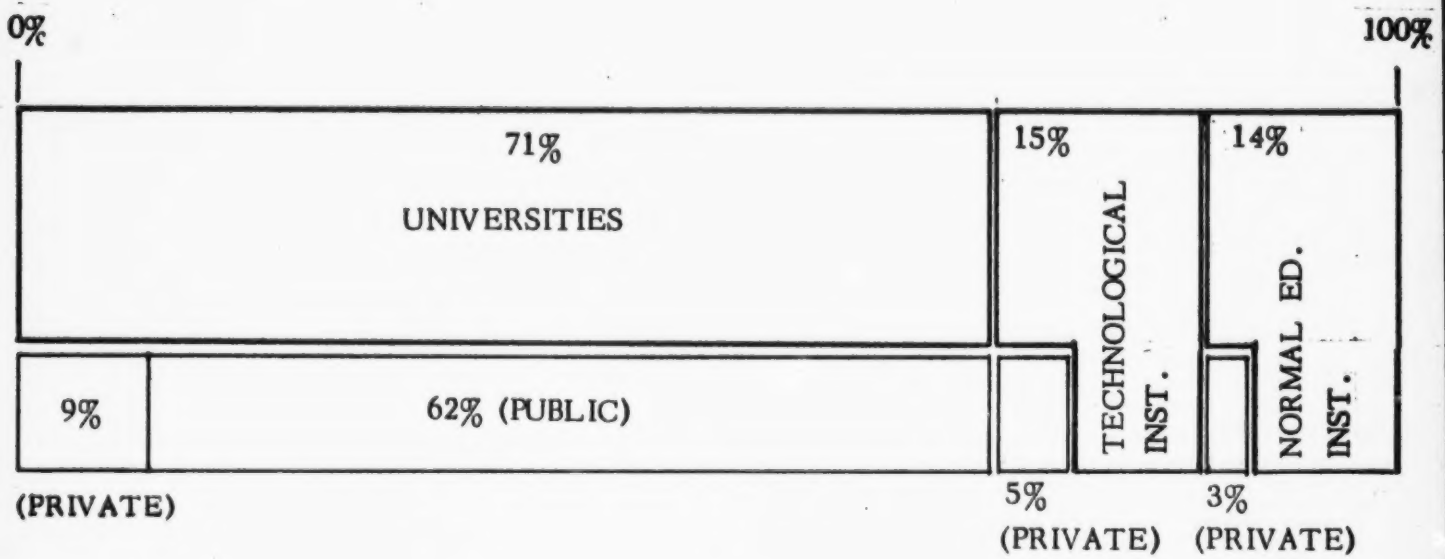


FIG. 7

PUBLIC AND PRIVATE HIGHER EDUCATION

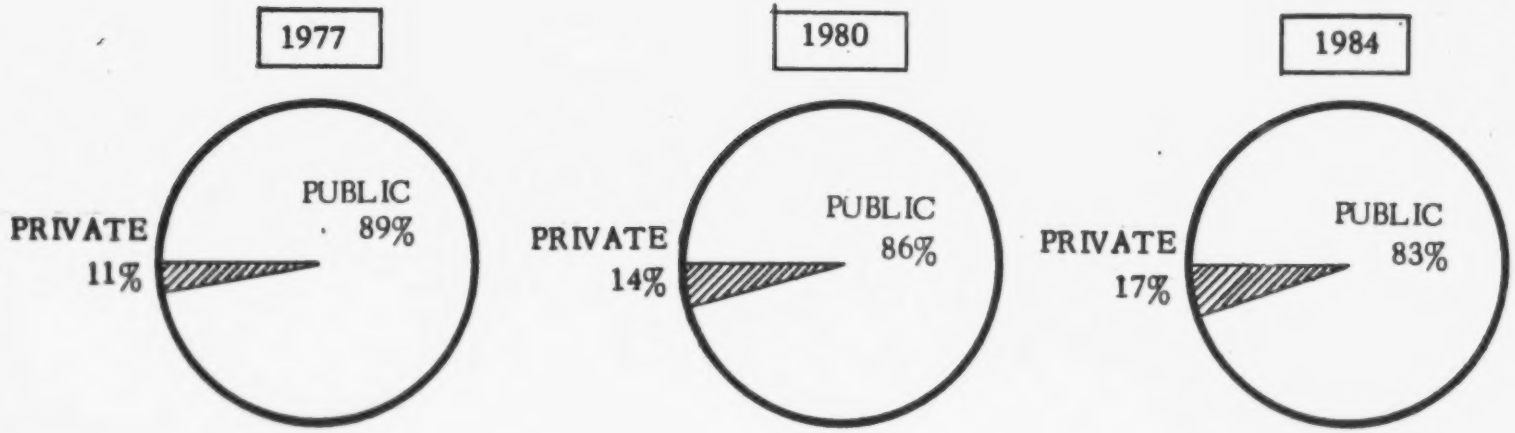
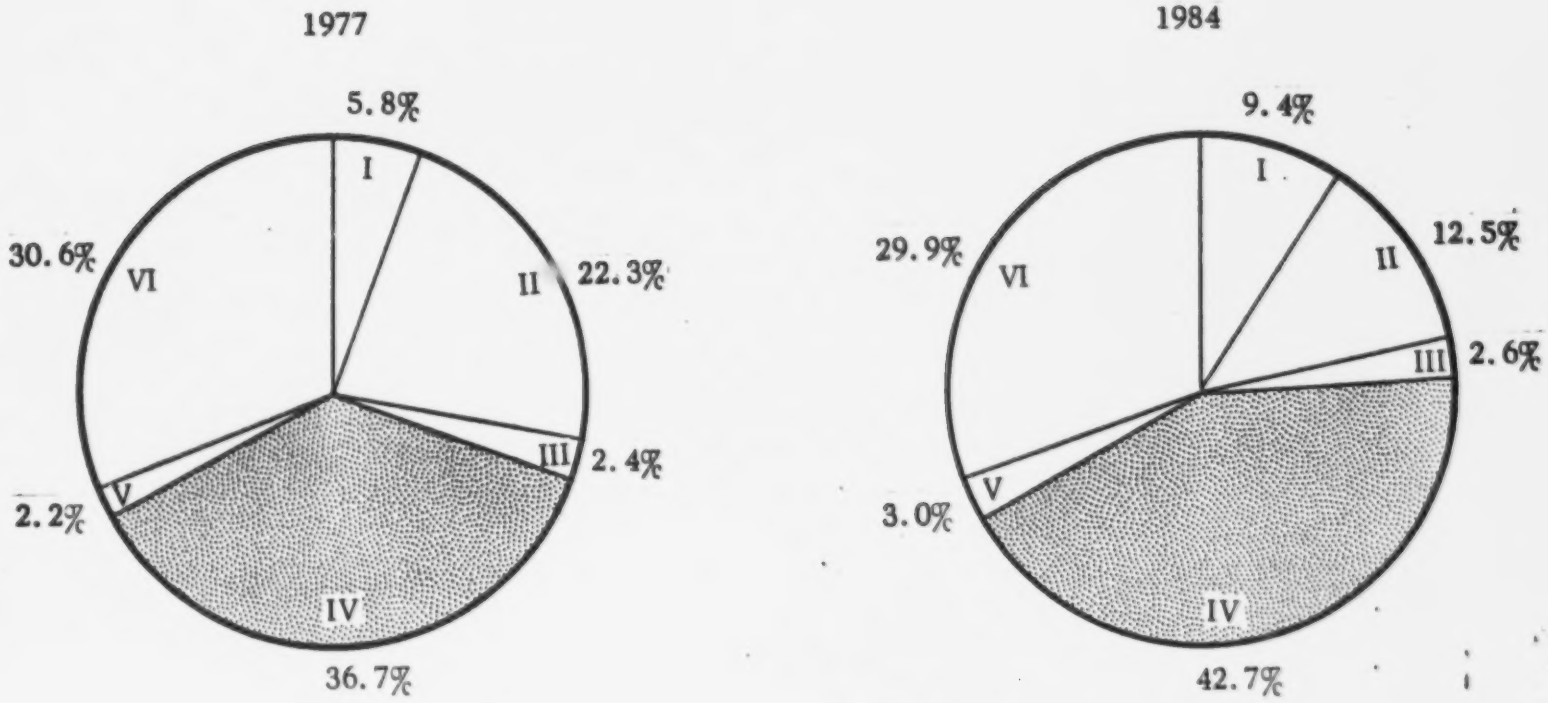


FIG. 8

DISTRIBUTION OF STUDENT POPULATION BY
AREAS OF KNOWLEDGE



I. Agriculture Live Stock
II. Health
III. Natural Sciences
IV. Social Sc. and Administration
V. Education Humanities
VI. Engineering Technology

TABLE 1

INSTITUTIONS AND PROFESSIONAL PROGRAMS OF HIGHER EDUCATION

1977-1985

YEAR	INSTITUTIONS			NUMBER OF DIFFERENT PROFESSIONAL PROGRAMS
	TOTAL	PUBLIC	PRIVATE	
1977	194	117	77	256
1978	200	118	82	288
1979	208	112	96	326
1980	226	120	106	342
1981	244	123	121	389
1982	272	131	141	401
1983	289	138	151	416
1984	307	146	161	433
1985	329	153	176	443

Source: ANUIES. Anuarios Estadísticos 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985. ANUIES. México, D.F.

TABLE 2

FEDERAL SUBSIDY/ STUDENT RATIOS

FOR PUBLIC UNIVERSITIES

YEAR	FEDERAL SUBSIDY (billions of pesos)	STUDENTS (thousands)	F. SUBSIDY/ STUDENT RATIOS thousands of pesos of 1984
1977	8.5	383.7	263.7
1978	11.5	436.6	266.8
1979	14.6	489.7	255.2
1980	20.2	532.0	257.3
1981	28.6	558.9	271.8
1982	47.9	597.1	267.9
1983	71.8	569.2	209.1
1984	105.2	608.3	172.9

TABLE 3

STUDENT POPULATION BY EDUCATIONAL SUBSYSTEMS

(THOUSANDS OF STUDENTS)

YEAR	UNIVERSITIES		TECHNOLOGICAL INST.		NORMAL ED. INST. (1)		TOTAL
	PUBLIC	PRIVATE	PUBLIC	PRIVATE	PUBLIC	PRIVATE	
77	383.6	43.5	82.5	13.9			523.4
78	436.6	50.7	102.7	15.6			605.6
79	489.7	58.7	114.0	17.9			680.3
80	532.0	65.4	95.6	18.6	66.9	29.7	808.2
81	558.9	78.9	100.6	21.7	76.9	31.0	868.0
82	597.1	83.9	106.5	23.8	84.7	37.3	933.3
83	569.3	87.5	118.5	25.5	90.1	43.7	934.6
84	608.3	93.8	122.4	27.3	86.0	46.1	983.9

(1) Since 1979 Normal Education is defined by law as a subsystem of higher education.